Outline of Talk

- Definition and Status of ISOs
- Ancillary Services Markets
- Experience So Far
- Trends and Directions

Independent System Operators and Bioenergy

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Definition of ISOs

- Created when a transmission owner or group of owners transfers control, but not ownership, over certain transmission facilities
- ISOs may or may not:
  - operate a control area
  - administer a transmission tariff
  - run a power exchange or spot market
  - administer an ancillary services market and deliver ancillary services
  - conduct transmission planning; and with transmission owners, expand transmission capacity.

Advantages of ISOs

- Combine Utility-by-Utility Transmission System into Regional Networks
- Single Regional Transmission Tariff
- Minimize “Pancaked” Transmission Rates
- One stop shopping

Status of ISOs

- Ten ISOs in various stages of operation or planning
- Two types
  - Transformation of Power Pools into ISOs
  - Transmission-only ISOs
- Some Difficulties in Forming ISOs

Ancillary Service Provisions

- Two models so far.
  - Daily Competitive Auction
  - Customers or transmission owners provide ancillary services; ISO is provider of last resort.
- Very volatile market so far
- Could it be a market for biomass?
- Should the biomass industry embrace market-based pricing for ancillary services?

Experience So Far

- Prices below 3 cents/kWh in California until this summer
- More Volatile In PJM, but Average Price Still Under 3 cents/kWh in 1997
- Markets May Resemble Retail Sales Market
- Alternative Power Exchanges (APX in California)

Trends and Directions

- FERC Action
- Congressional Action
- Whether ISOs Under Negotiation Materialize
- Evolution from ISOs to Transcos
- Will a Distributed Market For Biomass Evolve?